

Notice of Allowability	Application No.	Applicant(s)	
	10/726,360	GORD ET AL.	
	Examiner	Art Unit	
	Kara E. Geisel	2877	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the application filed 03 December 2003.
2. ☒ The allowed claim(s) is/are 1-5.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|---|
| <ol style="list-style-type: none"> 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | <ol style="list-style-type: none"> 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____ 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance 9. <input type="checkbox"/> Other _____ |
|--|---|

DETAILED ACTION

Drawings

The drawings filed on December 3rd, 2003, have been approved by the Examiner.

Examiner's Amendment

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

The application has been amended as follows:

In regards to claim 1, line 4, the second "and" has been deleted, and line 12, "broadbeam" has been changed to --broadband-- (see line 6) in order to correct for two obvious typographical errors.

The amended claim appears below:

1. A triple-pump coherent anti-stokes Raman scattering system for simultaneous measurements of temperature and species concentrations with high spatial and temporal resolution in a gaseous system, comprising:

(a) first and second ~~and~~ pump lasers and first and second narrowband dye lasers for generating output beams near two substantially distinct wavelengths;

(b) a broadband dye laser;

(c) optical means for directing the output beam from said first pump laser onto said first narrowband dye laser and onto said broadband dye laser and for directing the output beam from said second pump laser onto said second narrowband dye laser;

(d) optical means defining a probe region for receiving a gaseous sample and for directing the output beams from said first pump laser, said first and second narrowband dye lasers and said ~~broadbeam~~ broadband dye laser through said probe region; and

(e) detector means for detecting the optical output from said probe region.

Examiner's Reasons for Allowance

Claims 1-5 are allowed over the prior art of record.

The following is an examiner's statement of reasons for allowance:

As to claim 1, the prior art of record, taken alone or in combination, fails to disclose or render obvious a triple-pump coherent anti-stokes Raman scattering system for simultaneous measurements of temperature and species concentrations with high spatial and temporal resolution in a gaseous system, comprising first and second pump lasers and first and second narrowband dye lasers for generating output beams near two substantially distinct wavelengths, a broadband dye laser, and optical means defining a probe region for receiving a gaseous sample and for directing the output beams from said first pump laser, said first and second narrowband dye lasers and said broadband dye laser through said probe region, in combination with the rest of the limitations of claim 1.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Additional Prior Art

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art made of record is Hancock et al. ("Dual pump coherent anti-Stokes Raman scattering measurements of nitrogen and oxygen in a laminar jet diffusion flame"), Moore et al. (USPN 4,555,176), Wineforder et al. (USPN 5,088,820), Alfano et al. (USPN 6,151,522), and Shimada (US Pubs 2003/0007145).

Hancock discloses a dual-pump coherent anti-stokes Raman scattering system for simultaneous measurements of temperature and species concentrations comprising a first pump laser and a first narrowband dye laser for generating output beams near two substantially distinct wavelengths, a broadband dye laser, optical means for directing the output beam from said first pump laser onto said first

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narrowband dye laser and onto said broadband dye laser, optical means defining a probe region for receiving a gaseous sample and for directing the output beams from said first pump laser, said first narrowband dye laser and said broadband dye laser through said probe region, and a detector means for detecting the optical output from said probe region.

Moore discloses a coherent anti-stokes Raman scattering system comprising a first pump laser, a broadband dye laser, optical means for directing the output beam from said first pump laser onto said broadband dye laser, optical means defining a probe region for receiving a gaseous sample and for directing the output beams from said first pump laser, and said broadband dye laser through said probe region, and a detector means for detecting the optical output from said probe region.

Wineforder discloses a coherent anti-stokes Raman scattering system comprising a first pump laser, first and second dye lasers, optical means for directing the output beam from said first pump laser onto said first and second dye lasers, optical means defining a probe region for receiving a gaseous sample and for directing the output beams from said first and second dye lasers through said probe region, and a detector means for detecting the optical output from said probe region.

Alfano discloses a coherent anti-stokes Raman scattering system comprising a three pump lasers, first dye laser, optical means for directing the output beam from said three pump laser and combining them with the first dye laser, optical means defining a probe region for receiving a gaseous sample and for directing the beams through said probe region, and a detector means for detecting the optical output from said probe region.

Shimada discloses a coherent anti-stokes Raman scattering system comprising a first pump laser, first and second dye lasers, optical means for directing the output beam from said first pump laser onto said first and second dye lasers, optical means defining a probe region for receiving a sample and for directing the output beams from said first and second dye lasers through said probe region, and a detector means for detecting the optical output from said probe region.

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kara E Geisel whose telephone number is **571 272 2416**. The examiner can normally be reached on Monday through Friday, 8am to 4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory J. Toatley, Jr. can be reached on **571 272 2800** ext. 77. The fax phone number for the organization where this application or proceeding is assigned is **571 273 8300**.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


HWA (ANDREW) LEE
PRIMARY EXAMINER

for:
Gregory J. Toatley, Jr.
SPE
Art Unit 2877

K.G.
KEG
February 24, 2006